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“Step Out From the Old to the New”

IS 11075-2-3 (1985): Specification for Radio Frequency Connectors of BNC, TNC AND UHF Series, Part 2: BNC Series, Section 3: Plug, Right Angle, Cabled Type 11075 IS-03-01 to 02 and 50 to 51 [LITD 3: Electromechanical Components and Mechanical Structures for Electronic Equipment]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

SPECIFICATION FOR RADIO FREQUENCY
CONNECTORS OF BNC, TNC AND UHF SERIES

PART 2 BNC SERIES

Section 3 Plug, Right Angle, Cabled Type

11075 IS-03-01 TO 02 AND 50 TO 51



1. General — Shall be read in conjunction with IS:11075 (Part 1)-1984 'Specification for radio frequency connectors, BNC, TNC and UHF series: Part 1 Test schedule and requirements'.

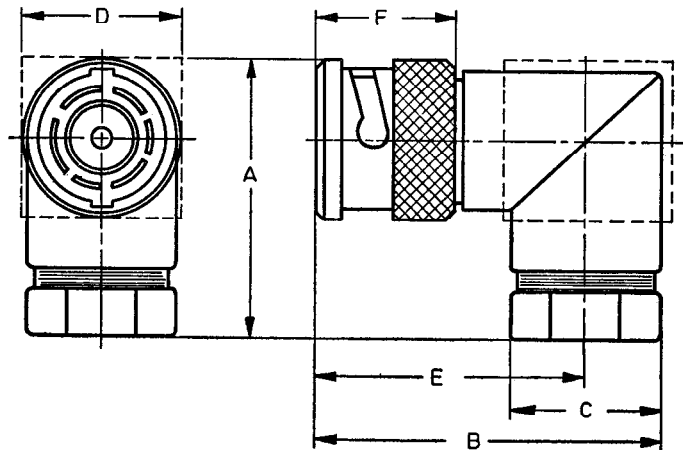
2. Type Designation — The types of connectors covered by this standard are designated [see 4.1 of IS:11075 (Part 1)-1984] as given in Table 1.

TABLE 1 TYPES OF CONNECTORS

Type No.	Impedance	Applicable Cable	Type of Termination*	Usage
(1)	(2)	(3)	(4)	(5)
11075 IS-03-01	50 ohms	R50-3-A03 R50-3-A02 R50-3-C47 R50-3-C48	Clamp	Professional
11075 IS-03-02	50 ohms		Crimp	Professional
11075 IS-03-50	50 ohms	R50-3-A03 R50-3-A02 R50-3-A47 R50-3-A48	Clamp	Consumer
11075 IS-03-51	50 ohms		Crimp	Consumer

*The centre contact in case of all connectors shall be soldered. Terminology regarding the type of termination refers only to the method of connection of cable braid to connector outer contact.

3. Outline and Dimensions — The outline and dimensions shall be according to Fig. 1.



- $A = 44.45 \text{ mm (Max)}$
 $B = 30.94 \text{ mm (Max)}$
 $C = 12.95 \text{ mm (Max)}$
 $D = 15.06 \text{ mm (Max)}$
 $E = 20.32 \text{ (Min)}/24.46 \text{ (Max)}$
 $F = 11.18 \text{ mm (Max)}$

Note — All dimensioned pictorial representations are for reference purposes only.

FIG. 1 OUTLINE AND DIMENSIONS

IS : 11075 (Part 2/Sec 3) - 1985

4. **Mating Interface Dimensions** — See Fig. 1 of IS: 11075 (Part 1)-1984 for mating interface dimensions.

5. **Materials, Finish and Life** — The material, finish and life requirement shall be as under.

a) *Material*

- 1) Body — Loaded brass conforming to IS:319-1974 'Free cutting brass bars, rods and sections (*third revision*) or IS:531-1971 'Loaded brass strip for instrument parts (*second revision*)'.
- 2) Centre contact — Loaded brass conforming to IS:319-1974 or IS:531-1971.
- 3) Insulation material — PTFE.
- 4) Gaskets
 - i) For professional grade — Silicon rubber.
 - ii) For consumer grade — Neoprene rubber.

b) *Finish*

- 1) Professional grade
 - i) Centre contact — 1.27 microns minimum gold plated over 5 microns minimum nickel or copper under plate.
 - ii) Other metal parts — 5 microns minimum silver or nickel plated. Braid clamps shall be silver plated 5 microns minimum.
- 2) Consumer grade

All metal parts minimum silver or nickel plated except centre contact and braid clamp to be silver plated 5 microns minimum.

c) *Mechanical Life*

500 mating cycles for pairs at 12 cycles/min (*Max*).

6. Climatic Category

a) Temperature severity

- 1) Professional grade — —65 to +200°C
- 2) Consumer grade — —10 to +70°C

b) Damp heat severity — 56 days

c) Air pressure (low) — 4.4 kPa

d) Acceleration (steady state) — 170 m/s²

e) Vibration — 10 to 2 000 Hz

f) Shock — 500 m/s²

7. Mating Characteristics

a) Contact with spring members

All slotted members shall contact a 8.23 mm (*Min*). Diameter ring within 0.79 mm of their tip ends.

b) Outer contact

- 1) Test ring ID: 8.1 mm (*Max*).
- 2) Test ring finish: 0.4 microns.
- 3) Insertion Force: 22.25 N (*Max*) when inserted a minimum of 2.36 mm.

8. Mechanical Characteristics

- a) Engagement and Disengagement Force
 - 1) Longitudinal Force — 13.35 N *Max*
 - 2) Torque — 2.83 mN m *Max*
- b) Centre Contact Retention Force — Not applicable
- c) Cable Retention Force
 - 1) Non-crimp assemblies — 178 N (*Min*)
 - 2) Crimp assemblies
 - 222.50 N (*Min*) for cables 3.94 to 4.80 mm OD.
 - 267 N (*Min*) for cables 4.81 to 5.82 mm OD.
 - 333.75 N (*Min*) for cables 5.83 to 6.33 mm OD.
 - 400.50 N (*Min*) for cables 6.34 mm OD and larger.
- d) Coupling mechanism retention force: 445 N (*Min*).

9. Electrical Characteristics

- a) Corona
 - 1) Corona level — 375 V (*Min*) at 4.4 kPa (low air pressure).
 - 2) Cable length — 152.4 cm.
- b) Voltage Rating
 - 1) At sea level — 500 V rms (*Max*).
 - 2) At low air pressure — 125 V rms (*Max*).
- c) Characteristic Impedance — See Table 1
- d) Frequency range — DC to 4 GHz
- e) VSWR — 1.3 maximum at 500 MHz to 4 GHz
- f) RF Leakage — 55 dB minimum at frequencies between 2 and 3 GHz
- g) RF Insertion Loss — 0.3 db at 3 GHz
- h) RF Voltage Proof
 - 1) Voltage and frequency — 1000 V rms at 5 to 7.5 MHz.
 - 2) Leakage current — Not applicable.

10. Tests — See 8 of IS:11075 (Part 1)-1984.

11. Marking — See 5 of IS:11075 (Part 1)-1984.

EXPLANATORY NOTE

This standard is based on JSS 52401. 'Detail specification for connectors, radio frequency, series BNC, TNC and UHF'. The types of connectors covered in this standard are equivalent to Pattern JSS 52401/03.